Wireless Communication Facilities Guidelines

City of San Diego

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INTRODUCTION

The following guidelines should be used in conjunction with the Wireless Communication Facilities regulations of the Land Development Code (section 141.0420), as well as any previous applicable regulations. These guidelines will be used as a tool for processing all new and expired permits and as minimum standards in determining the review time.Together with Council Policy 600-43, these guidelines prescribe clear, reasonable, and predictable criteria to assess and process applications in a consistent and expeditious manner.

This guideline establishes a framework of opportunities to create desirable Wireless Communication Facilities (WCF) in the City of San Diego. A vision for all future WCF is embodied in 8 guiding objectives.

Picture on the left: Located at 4110 West Point Loma Blvd
Picture above: Located at 10415 Tierrasanta Blvd

BUILDING COLLOCATION

Complete Concealment

Additions or modifications to buildings of this nature should always consider the existing bulk, scale, symmetry and design of the building.

A Complete Concealment facility without an expiration date must meet **ALL** the following criterias:

1. The proposed antennas must be fully recessed/concealed from all four sides within a structure that is architecturally compatible with the existing building.

Above is an artist rendering of the proposed antennas' location The picture on the above right is the completed facilityProject site is located at 3510 Ingraham Street

2. The proposed coaxial cable tray must be routed internally. Exterior mounted coaxial cable tray designed to replicate an existing vertical element may be considered on a case by case scenario. Standard cable trays painted and textured to match the existing building will not meet the intent of a Complete Concealment Facility.

3. The associated equipment must be completely concealed inside an "existing structure" or inside an underground vault. CMU walls and prefabricated facilities will not meet the intent of a Complete Concealment Facility. Equipment enclosures designed to replicate existing buildings and structures may be considered on a case by case scenario.

BUILDING COLLOCATION

FRP Installation

3. Colors and textures must match existing building.

Above is the photosimulation of the antenna(s) location. Picture on the right is the actual as-built facility.
Site is located at 1515 Palm Avenue

4. No visible transitions between old and new surfaces.

5. No exposed construction braces.

The antenas are concealed behind the RF transparent wall above the glass on the left picture and behind the "CABRILLO MEDICAL CENTER" on the right picture. Site is located at 7695 Cardinal Court.

BUILDING COLLOCATION

FRP Installation

6. Roof top additions must be concealed on all four (4) sides.

7. New architectural features such as columns, pilasters, corbels or other ornamentation that conceal antennas may be used if it complements the architecture of the existing building.

8. Faux chimneys must include architectural detail/trim, if such detailed exists on the building, or if it helps to improve the appearance of the building.

Pictures below illustrates examples of poor design that will NOT be supported by staff.

C. Modifications to concealed facilities that do not change the exterior appearance will not require review by Development Services. Except for modifications that requires additional facilities (antennas, cabinets, microwave dishers, generators).

Facade Mounted Antennas

These types of additions to buildings must consider scale and symmetry of the structure as well as minimizing bulk to the exterior.

A. Antennas mounted to the water tank/standpipe façade.

1. Pipe-mounts and brackets may not exceed the width or length of the antennas.

2. All conduits must be appropriately concealed.

Examples of inappropriate façade mounted antennas due to exposed cables and mounting brackets

BUILDING COLLOCATION

Facade Mounted Antennas

B. Antennas mounted to the façade of a building that are painted and textured to match the building

1. Utilize the smallest mounting brackets available in order to provide the smallest offset from the building. If the brackets are 4" then the space between the building face and the back of the antenna should not exceed 4".

2. Utilize skirts on sides and bottoms of antennas in order to conceal mounting hardware and minimize the visual impact of the antennas.

There are two carriers at this sector and while the antenna specifications are different, the symmetrical alignment allow these antennas to effectively integrate with the existing elements at this site. This WCF is located at 3202 Governor Drive.

Facade Mounted Antennas

Project is located at 9059 Mira Mesa Boulevard.

This site is a facility with poor examples of antenna mounting practices.

3. Paint and texture antennas the same as the building surface.

4. To the extent possible, employ symmetry and balance techniques for all façade mounted antennas.

   - o First provider on a structure will dictate antenna length, width and placement. All succeeding applications for façade mounts will be required to ensure consistency and symmetry in placing antennas on the exterior of the structure.

   - o No interruption of horizontal or vertical reveals.

5. Antennas should be no longer nor wider than the façade on which they are proposed.

6. No exposed cabling shall be permitted.

7. No exposed mounting apparatus shall remain on a building facade without the associated antennas..

8. Panel antennas shall be mounted no more than 12 inches away from building facade as required per Land Development Code Section 141.0420.

GROUND MOUNTED FACILITIES

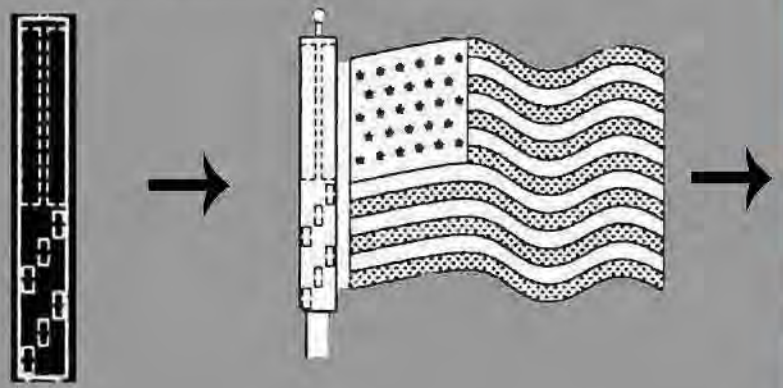
Flag Poles

This category includes flag poles, faux trees, towers, ball field lights, light poles, signs, pipe mounts, and public right-of-way elements.

1. Comply with all development regulations for zone.
2. Design structures to the minimum height necessary, but apply for Planned Development Permit when height deviation is needed. Height deviations will be considered in exchange for a well designed, integrated project.
3. Structures need to be integrated architecturally into the environment and harmonize with the property on which it is proposed.
4. Community Planning Group support of existing wireless communication facilities does not negate the need to comply with regulations.

A. Flag Poles

1. Poles 30'-0" or less shall not exceed 9 inches in diameter.
2. Consideration will be given to poles higher than 30'-0" that exceed the 9 inch diameter limitation if it can be demonstrated that the flag pole is located in a suitable environment and appropriately tapered in order to maintain the appearance of an authentic flag pole.
3. Antennas must be enclosed within pole/radome.



GROUND MOUNTED FACILITIES

Flag Poles

4. Comply with US Flag Code.

5. Utilize in conjunction with existing or added formal plantings.

6. Decorative ornaments shall be included in the overall height measurement.

7. All coax must be routed directly from the ground up through the pole. No doghouse will be allowed.

8. The overall height and diameter of the flagpole must be compatible with the surrounding area.

Picture above left: 7380 Convoy Court
Picture above right: Black Mountain Road

Picture above: Located at 1895 Camino Del Rio South

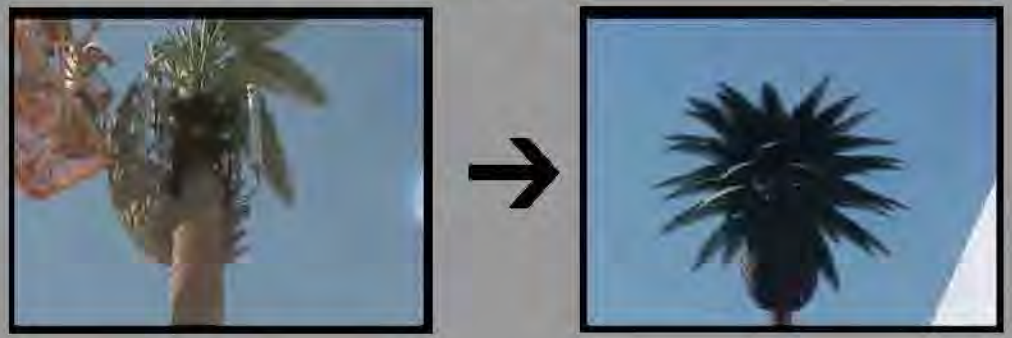
9. Not to be used as a means to gain height in areas where multiple flagpoles already exist.

10. The antennas must be concealed inside the flagpole.

Picture above right: 1665 Precision Park Lane

GROUND MOUNTED FACILITIES

Faux Trees



Left: Mono-palm designed to fully conceal the antennas and coaxial cables from the public perspective within the growth pod. The project is located at: 1366 30th Street

1. Use in an existing landscape setting with trees at similar height and of the same species.
2. If site is void of tall trees or landscape, create landscape setting that integrates faux tree with added similar species of varying heights.
3. Faux trees in non urban settings should be species regionally appropriate to San Diego that blends with established plant communities.
4. Utilize trees that replicate shape, structure and color of live trees.
5. Provide detailed specifications during plan review.

Right: Mono-pine with antenna socks fully covering the length and width of the antenna. The tree contains pipes absent antennas which will NOT be supported by staff. The site also contains an "ice bridge" connecting the coxial cables. This type of installation will not be supported by staff in the future. This site is located at: 9475 Nicola Tesla Court

GROUND MOUNTED FACILITIES

Faux Trees

6. Ensure that top branches of tree do no exceed allowed height.

7. All coaxial cables must be routed directly form the ground up through the pole. No doghouse will be allowed.

8. All faux trees shall incorporate a sufficient amount of architectural branches and design materials so that the structure is as natural in appearance as possible.

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Site is located at 209 Catalina Boulevard

Left: Verizon Mono-pine with extensive antenna sock coverage. The antennas are minimally visible designed with heavy density branches.

Right: Cricket Mono-pine with sufficient antenna sock coverage. The bolts located on the bottom portion of the faux tree will NOT be support by staff.

Site is located at 3060 64th Street

GROUND MOUNTED FACILITIES

Ball Field Lights

1. Utilize existing ball field lights, upgrade existing light standards or add ball field lights to a park planned for field lighting.

2. Mount antennas as close as possible to the pole and below the light source.

Picture to the right : Located at 10415 Tierrasanta Blvdt

3. Minimize visibility of coax cables by routing through pole and eliminating loops for cable entry and exit.

4. Paint antennas the same color as the pole.

5. All cables and conduit to and from the light standard is expected to be routed from underneath the caisson. Doghouses may be supported only if it is minimally visible and designed to integrate with the existing environment.

GROUND MOUNTED FACILITIES

Light Poles

1. Use only in parking lots or along pedestrian paths. Not to be used as a means to gain height in areas where a light standard is unnecessary.

2. New light standard design must be consistent and compatible to the surrounding area.

2. To the extent feasible, match design, material and color of existing light poles.

3. If possible, replicate height of existing poles. Significant height increase of 5' or more can only be supported if the design integrates with the surrounding environment.

4. If utilizing more than one pole,space appropriately throughout property. Consideration must be given to existing vertical elements before pursing new light pole(s).

5. All cables and conduit to and from the light standard is expected to be routed from underneath the caisson. No doghouse will be allowed.

6. All antennas shall be concealed inside a raydome of a reasonable diameter. The length of the raydome shall be not greater than 1/3 length of the height of the proposed light pole.

Left: Three (3) antennas inside a raydome with the conduits routed up underneath the caisson and into the new light pole.
Right: Two (2) antennas inside a raydome with the conduits also routed up underneath the caisson and into the new light pole

GROUND MOUNTED FACILITIES

Right-of-Way

Distributed Antenna System

1.To the extent possible, all wireless communication carriers shall consider utilizing Distributed Antenna System (DAS) as a form of installation to right of way facilities. Such design is especially encouraged when a search ring is identified within a residential zone.

2. All equipment associated with a DAS installation shall be installed directly onto an existing right of way pole structure painted and textured to match.

Here are examples of the Distributed Antenna System's appearance within the City of San Diego.

GROUND MOUNTED FACILITIES

Right-of-Way

Full size antennas on light standards/traffic signal

3. If utilizing full antenna facility, the replacement poles should match height, color and material of original poles.

4. Exterior panel antennas should not exceed the height of the pole.

5. Utilize brackets that allow antennas to be mounted no more than 4" from the pole.

6. No looping cables.

7. All replacement or new poles must comply with all city ordinances and policies.

Above: Project above includes an underground vault with two air vents. The antennas are exterior mounted onto a 16" diameter pole.

8. To the extent possible, the equipment shall be minimally visible through the use of undergound vault.
If this cannot achieved, above ground cabinets must be designed and located in an area with minimal visual impact.

9. All disturbed landscape shall be replaced and re-planted in accordance to the Landscape Development Regulations.

Left: Project is located in UTC, with the antennas concealed inside a 16" diameter raydome. The facility also contains an underground vault with two air vents.

GROUND MOUNTED FACILITIES

Pipe Mounts

1. Use in conjunction with backdrop (either hillside or structure) and sufficient landscape to screen antennas.

2. Add landscape to screen if site is devoid of landscape

Left: Pipe mounted shall be only mounted on hillsides at a relatively low distance from the finished grade. Noticed how all the pipe mounts are painted to match the landscaping to help as a form of camoouflaging.

3. All pipes and conduits shall be painted to match.

4. To the extent possible, all conduits shall be routed with minimal looping.

GROUND MOUNTED FACILITIES

Towers (Obelisk, monument, signage, etc...)

1. Design towers to architecturally blend with the building/structure/setting in which it is proposed.

Above left: This project has been designed to appear as an identification/clock tower. The facility is located inside a commercial shopping plaza and while the antennas are exterior mounted, the carrier has done a excellent job with blending the design into the environment to the extent possible.
Above right: Wireless communication facility designed as an identification tower which fully conceals the panel antennas behind the signage. These are examples of successful designs that can be integrated within the City of San Diego.

GROUND MOUNTED FACILITIES

Towers (Obelisk, monument, signage, etc...)

2. The design shall Utilize the lowest height possible.

3. Significant advancements in technology has allow carriers to camouflage tower facilities within an integrated design. These are examples of creative structures that has been approved by the City of San Diego.

As the picture illustrates the antennas for this project is fully concealed inside the existing signage demonstrating a fully camouflaged facility.

Left: The antennas for this project is also fully concealed inside the obelisk. Please also note that this site has been design with minimal height to better integrate with the existing church.

ASSOCIATED EQUIPMENT

Cable Tray

1. Cable should be routed internally. If it can be demonstrated that the building construction does not allow internal routing, then cable tray must be minimum size necessary to accommodate cable.

2. Cable tray should be located inconspicuously. Place in a corner of the building where it won't have a visual impact or make the cable tray a decorative element on the building.

3. When more than one cable tray is exposed on a building exterior, place and space consistently and appropriately.

4. All coaxial cable must be placed underground. No above ground cable or bridges.

5. All coax must be routed directly from the ground up through the pole.

6. All exterior mounted cable tray shall be painted and textured to match the existing building.

Picture above: The coaxial cable is concealed inside the wing wall and routed to the roof and inside the chimneys. This site is located at 7880 Golfcrest Drive.

The coaxial cable is fully concealed inside a new wall extension designed to match the existing paint and texture of the existing building. This site is located at 1570 Alta La Jolla Drive.

ASSOCIATED EQUIPMENT

Enclosures & Equipments

1. Architectural integration required.

2. Utilize similar building materials, color, accents and texture as primary building. If no buildings exist on site, ensure that building is designed to blend in to environment.

Pictures above: The equipment is concealed inside the architecturally design enclosure with the AC units installed behind the parapet extension as shown in the highlighted picture to the right. This site is located at 1502 Via Las Cumbres

3. Minimize exterior appurtenances. Use screen wall and/or combination of landscape for screening purposes.

4. Utilize open top with lattice accent in order to eliminate need for a/c units.

The equipment is located behind a combination of a screen wall and appropriate landscaping. The open top eliminates the need for any air conditioning units for this site. This WCF is located at 3202 Governor Drive

Enclosures & Equipments

5. Utilize existing topography or landscape to minimize views of equipment.

Above left: This is an indoor equipment facility with vents for the AC units. The design matches the existing color and texture as you can see from the trims. This site is located at 4585 College Avenue. Above right: This facility replicated the existing building's texture and design pattern. This site is located at 6675 El Cajon Blvd

6. Gates should be constructed of similar or complimentary materials as the enclosure, but must maintain opaque qualities. Expanded metal with pinholes is an example.

7. Fences shall be constructed of decorative materials that complement and blend with the surroundings. No chain link fence will be permitted.

8. Anti-graffiti finish shall be applied to all solid fences, walls and gates.

9. Chapter 14, Article 2, Division 9 of the Land Development Code requires that all roof top equipment be screened. In addition, wireless communication facilities must be architecturally integrated and appropriately placed on the roof top so as not to cause a visual impact. See Figure 41 for an example of a poorly integrated rooftop addition.

ASSOCIATED EQUIPMENT

Generators

1. Architectural integration required.

2. To the extent possible, generators shall be enclosed along with the existing equipment. Similar to equipment enclosures, the screening for the generator shall utilize similar building materials, color, accents and texture as primary building. If no buildings exist on site, ensure that building is designed to blend in to environment.

3. Use screen wall and/or combination of landscape for screening purposes. Landscape is required if the facility is not completely concealed inside an existing structure.

4. Fences shall be constructed of decorative materials that complement and blend with the surroundings. No chain link fence will be permitted.

5. Anti-graffiti finish shall be applied to all solid fences, walls and gates.

Landscape

1. Utilize landscaping to improve views from the public right-of-way and neighboring properties by screening, buffering, and blending Wireless Communication Facilities with the surrounding environment. All landscaping shall conform to the City's Landscape Regulations and the Land Development Manual: Landscape Standards. Landscape plans submitted to the Development Service's Department shall conform to the Land Development Manual: Project Submittal Requirements."

2. For discretionary projects, provide street trees, per the requirements of LDC 142.0409, Street Tree and Public Right-of-Way Requirements.

3. Landscape screening shall be provided around new exterior equipment enclosures. The plantings shall be evergreen and spaced to ensure 100 percent screening within two years of installation. (Land Development Manual: Landscape Standards, section 1.2)

Landscape

4. When antennas are proposed to be located on artificial trees (i.e., "monopines"), the proposed artificial tree shall match the leaf shape, tree form and coloring of existing trees and any proposed live trees. Additional trees shall be added to create a grove-like environment.

5. Proposed landscaping shall be consistent with the existing landscape design and applicable permits. Facility design shall not result in the removal of any trees. However, trees may be approved for removal. Replacement trees shall be replaced in-kind.

6. When underground vaults are proposed, they shall be located to minimize disruption to the City's street trees. Adequate planting depth shall be provided between the top of the vault and the finished grade for proposed planting to grow in a healthy growing condition to match adjacent, existing planting. Any vegetation removed shall be replaced i n-kind.

7. Any removal, replacement, or installation of street trees shall require review by the City's Urban Forester and the issuance of a 'No-Fee' Street Tree Permit, in accordance with Municipal Code section 62.0600. Care should be taken to not disrupt existing street trees. Any trees removed shall be replaced in-kind.

Tree "topping" is prohibited and can lead to many problems such as irregular and poorly attached sprouting branches, insect attack and disease or complete tree dieback, decline and death. Help us keep trees safe, healthy and beautiful.

COASTAL HEIGHT PROPOSITION D

Coastal Height Limit Overlay Zone

In the Coastal Height Limitation Overlay Zone on previously conforming buildings above 30 feet in height, the carrier must demonstrate that a significant gap in service coverage exists.

For buildings over 30 feet:

1. Antennas must be within the existing structural envelope of building, unless carrier can demonstrate that existing building construction does not allow.

2. Plans must demonstrate that proposal is the least intrusive method of installation in terms of aesthetics and height.

3. Each carrier is responsible for demonstrating that the initial exterior antenna installation on a building and all subsequent installations do not interfere with the overall aesthetics of the building in compliance with the goals and objectives of the Coastal Overlay Zone.